



RESEARCH REPORT

Assistant Teachers in Head Start

Important Drivers of a Diverse and Competent Workforce

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August 2021

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Acknowledgments

This report's writing and editing were funded by the Foundation for Child Development, and their Young Scholars Program provided generous funding to support this study. Special thanks to the Urban Institute, Tamara Halle, and Marty Zaslow for their generous and helpful feedback in writing and revising this report.

The author is deeply grateful to the Head Start teachers who participated in this study. Thank you to the Holyoke-Chicopee-Springfield Head Start agency for their partnership in this research project, as well as Allegra Corwin-Renner, who worked tirelessly to coordinate and manage the research project, both in connection with the community partners at Head Start and the undergraduate research assistants at Mount Holyoke College.

The views shared in this report are those of the author and should not be attributed to the Urban Institute, its trustees, or its funders. Any errors in this manuscript are the responsibility of Jennifer Wallace Jacoby. Further information on the Urban Institute's funding principles is available at urban.org/fundingprinciples.

Executive Summary

Despite the important role assistant teachers play in Head Start and other early care and education (ECE) programs, few research studies explore their role in the classroom and, more specifically, how they contribute to classroom quality in the program's day-to-day implementation. As a result, this large constituency of the ECE workforce is often left out of policy initiatives, their roles are rarely mentioned in policy, and their voices are rarely invited into policy conversations.

This report's findings shed light on the everyday contributions Head Start assistant teachers make to classroom quality, measured through teacher-child interactions. This report aims to help policymakers, education administrators, and practitioners understand the importance of assistant teachers to the quality of Head Start programming, and particularly their role in supporting the growing population of dual language learning (DLL) children in Head Start. The findings could have implications for policy development that positively supports practices that train, develop, and retain assistant teachers in the workforce pipelines of Head Start and other ECE settings.

This study was conducted in collaboration with a partner Head Start agency in the Northeastern US, as part of a larger investigation into Head Start assistant teachers' professional roles. Thirty-eight assistant-lead teaching teams from Head Start preschool classrooms across 14 Head Start centers within the larger agency participated. DLL children were present in each of the 38 classes. The minimum number of DLL children in any class was 3, and the maximum was 20.

A novel approach to observation and coding was used to parse out the separate contributions of assistant and lead teachers to classroom quality. Assistant and lead teachers from the same classroom were observed on the same day, but their contributions to classroom quality were coded separately using the CLASS quality measure, following a unique methodology designed with expert consultation. Teacher questionnaires were used to collect information on assistant and lead teachers' experiences and sociodemographic characteristics. These data were the foundation for calculating descriptive statistics and fitting statistical models to test the relationship of classroom quality in Head Start with teacher characteristics—including whether the professional role (i.e., assistant or lead teacher) related to classroom quality.

The main findings from this work are grouped into three areas of interest:

- **Multilingualism and diversity:** this study found high rates of multilingualism and racial/ethnic diversity among both assistant and lead teachers in the sample, with assistant teachers

reporting higher rates of multilingualism and racial/ethnic diversity than lead teachers in Head Start. These language skills in particular are an asset that assistant teachers bring to Head Start classrooms serving DLL children. Further, these findings indicate that assistant teachers might play an important role in supporting Head Start's program goals of using children's home languages when possible (HHS 2008) and employing culturally diverse staff (Mancilla-Martinez and Lesaux 2014).

- **Limits of language competencies:** despite the high rates of multilingualism among assistant and lead teachers, most classrooms served one to four DLL children whose home languages were not spoken by either the assistant or lead teacher. The large, multicity, multisite Head Start agency in this study reported that the most common home language among the children was Spanish but also that 17 other languages were spoken in the children's homes. Given that this level of linguistic diversity is not uncommon in Head Start programs and the previous finding that assistant teachers contribute important linguistic and racial/ethnic diversity to the Head Start teaching staff, using the assistant teacher workforce pipeline to increase representation of linguistic competencies among the adults in these classrooms might be a valuable step toward supporting DLL children.
- **Classroom quality:** in the sample, assistant teachers scored in the middle–high range on the Classroom Assessment Scoring System (CLASS) quality measurement tool (Pianta, LaParo, and Hamre 2008) in the domains of Emotional Support and Classroom Organization—the same range as lead teachers in these classrooms. These findings highlight the similar contributions assistant and lead teachers make to classroom quality in Head Start. Yet assistant teachers scored lower than lead teachers in Instructional Support. Though the drop was small and this domain is consistently the lowest-scoring domain across ECE classrooms, this finding suggests assistant teachers might benefit from professional education and development tailored to their role and linguistic and racial/ethnic competencies as described in the previous findings.

This study's findings have implications for how Head Start policy and practice can more fully recognize assistant teachers' important role. Based on the findings, implications exist regarding (1) the need to formally define assistant teachers' professional roles; (2) the importance of acknowledging linguistic and cultural knowledge as competencies among the ECE assistant teacher workforce; (3) the opportunity to capitalize on the critical role assistant teachers may play in using lower-incidence languages in the classroom; and (4) the benefits of prioritizing professional development opportunities that target the growth of assistant teachers and build upon their demonstrated competencies and assets.

Assistant Teachers in Head Start: Important Drivers of a Diverse and Competent Workforce

Introduction

Assistant teachers in Head Start and other early care and education (ECE) programs are often overlooked in both policy and research. Few studies explore their classroom role and how they contribute to classroom quality. This report can help inform policy and practice by opening investigation into assistant teachers' contributions to the Head Start program's daily implementation. It describes how Head Start assistant teachers contribute to the program through their linguistic and cultural competencies and to classroom quality through teacher-child interactions.

Prior research suggesting assistant teachers are more culturally and linguistically diverse than their lead teachers shows that assistant teachers may be a linchpin in providing high-quality education to culturally and linguistically diverse groups of children (Whitebook, Kipnis, and Bellm 2008; Whitebook, McLean, and Austin 2016). Head Start reports that 29 percent of enrolled children speak a home language other than English and can therefore be described as dual language learners (DLLs).¹ For Head Start to accomplish its goal of creating a high-quality learning environment reflective of and responsive to the varied linguistic and cultural backgrounds of its students, it is important to consider assistant teachers' role in achieving this goal (HHS 2008). As Head Start students reflect the growing cultural and linguistic diversity of children in the US more generally (Zeigler and Camarota 2014), this report could inform policy and practice in early care and education (ECE) contexts more broadly.

The Head Start Program Performance Standards² acknowledge the importance of assistant teachers, specifically in terms of their characteristics, such as the ability to speak the child's home language and their knowledge of the cultural norms and traditions the child experiences at home. In this way, the need for linguistic and cultural matches between teachers and children is addressed by Head Start policy³ and frequently reflected in site-level hiring practices (Mancilla-Martinez and Lesaux 2014).

The Head Start Act reauthorization in 2007 outlined additional strategies meant to increase the program's efficacy. These policy recommendations concentrated on increasing degree requirements for lead teachers and investing in professional development and training programs (Kaplan and Mead

2017). Unfortunately, the scope of these policy recommendations did not explicitly extend to *assistant teachers* through a recognition of the appropriate competencies and degree requirements for this sub-group of the teaching workforce. Further, it is unclear how these policy changes intersect with Head Start program standards prioritizing hiring culturally and linguistically diverse teaching staff. To fill the research gap and help direct future policy initiatives, this report explicitly focuses on assistant teachers.

Assistant Teachers Are More Linguistically Diverse than Lead Teachers

One of the few prior studies of assistant teachers in ECE settings found the most common staffing pattern in state-funded pre-K programs was an English-only speaking lead teacher with a Spanish-speaking assistant teacher (Figueras-Daniel 2016). Other studies of staffing in ECE settings more broadly, including home daycare and child care centers, have found that assistant teachers are a more culturally and linguistically diverse group than lead teachers (Whitebook 2008; Whitebook, McLean, and Austin 2016). Similarly, a recent Migration Policy Institute report found that bilingual staff members in ECE are concentrated in lower-paid positions that require fewer educational credentials, such as assistant teaching roles (Sugarman and Park 2017). Yet, insufficient evidence exists to discern how the linguistic and cultural characteristics of Head Start assistant teachers serving DLL children support the program's goals. This report aims to fill this research gap by surveying and observing assistant teachers in Head Start classrooms serving DLL children. This work could help Head Start support their programs by providing further examples of how assistant teachers, who are themselves multilingual, contribute to Head Start's goal of incorporating children's home languages in the classroom.

Assistant Teacher Roles Are Not Consistently Defined

Prior research on the collaborative nature of teaching in Head Start emphasizes that research and policies focusing narrowly on lead teachers may overlook the prevalence of multiple teaching staff working together in single ECE classrooms (Curby et al. 2012; Young 2017). By the very nature of their professional role, assistant teachers work in a collaborative context. In Head Start classrooms with assistant teachers, both the assistant and lead teacher contribute to the day-to-day work of running the classroom, which likely presents both opportunities and challenges for supporting children's development.

Prior research regarding mainstream classroom support for children in K-12 settings with developmental and learning differences has highlighted the important, though often ambiguous, role

assistant teachers play in helping the lead teacher with this work (Butt 2016; Fisher and Pleasants 2012). Having multiple teaching staff in ECE classrooms to support children with specialized learning plans may allow, for example, for differentiation in teaching, wherein assistant and lead teachers can alternate between whole class instruction and more individualized support. The context of collaborative teaching in Head Start, particularly in settings that serve DLL children, remains relatively unexplored in prior research and relatively undefined and underacknowledged in policy.

Historically, the professional tasks assigned to assistant teachers pertained to cleaning the classroom and completing paperwork (Lynch et al. 2016). More recently, however, assistant teachers have been recognized as key members of the teaching staff, particularly as mainstream classrooms serving children with developmental differences alongside their typically developing peers have become the educational standard. Several researchers have begun to document how assistant teachers support individualized instruction for special populations of learners (Butt and Lowe 2012; Frantz et al. 2019). Though most of this work has examined settings that enroll children with developmental and other learning-based differences, lead teachers who work with other special populations of children, such as Title 1 recipients and those identified as English learners in K–12 contexts, might also rely on assistant teachers to provide one-on-one and small group support to these children. To date, however, the professional role assistant teachers fulfill in Head Start classrooms serving the growing population of DLLs in the US is understudied. This report attempts to fill this gap.

Assistant Teachers and Positive Outcomes for DLL Children: A Theoretical Framework

Analysis of existing research suggests that assistant teachers working with lead teachers—separately and in combination—contribute to classroom quality and, ultimately, child outcomes. In theory, aligning teachers' background characteristics with those of the children they serve will positively contribute to classroom quality and children's outcomes. Although it is important to consider the policy context's role in either supporting or constraining recruitment, hiring, training, supervision, and curriculum implementation practices, the theoretical framework guiding the current study focuses specifically on the alignment of assistant teachers' characteristics with those of their students.⁴

Current Study

Research suggests that little specialized training is provided to assistant teachers to meet the demands of their role and that much more attention needs to be paid to improving assistant teachers' professional development (Frantz et al. 2020; Lynch et al. 2016). Further, when assistant teachers' roles are discussed in research and policy, it is often through the lens of educational administrators and other high-status employees within the education system who are the primary participants in education research. Highlighting assistant teachers' added contributions to quality, while purposefully disentangling them from the lead teachers' contributions, may help formalize their centrality in implementing the Head Start program and lead to a more concrete description of their role in classrooms. For these reasons, the current study foregrounds assistant teachers in all parts of the research project. The current study contributes to the literature by focusing on the linguistic and cultural characteristics of Head Start assistant teachers and providing evidence of how assistant teachers improve quality in classrooms that serve DLL children.

The current study aims to answer the following three research questions:

- How do assistant teacher characteristics, such as their years of Head Start teaching experience, language proficiencies, and racial/ethnic backgrounds, compare with those of lead teachers?
- How well do the language proficiencies of assistant and lead teachers match the linguistic diversity of the children in their classrooms?
- What associations exist between the quality of teacher-child classroom interactions and the characteristics of assistant and lead teachers? How do they vary by years of experience and Spanish-speaking skills?

Data, Sample, and Methods

This report draws on data collected in a larger study developed through the *Foundation for Child Development's Young Scholars Program*. The larger study used both qualitative and quantitative methods to collect data describing assistant teachers' professional roles and their contributions to quality in Head Start classes serving DLL children. This research project was carried out in collaboration with a partner Head Start agency. More information on the Head Start agency can be found in appendix A.

The Study Sample

The research team collected data from 38 assistant-lead teaching teams from Head Start preschool (children ages 2 years and 9 months through 5 years) classrooms across 14 Head Start centers.⁵ All participating assistant and lead teachers identified as female. DLL children were present in each class. The minimum number of DLL children in any class was 3 (17 percent of students), and the maximum number was 20 (100 percent of students). The mean number of DLL children across the 38 classes was 10.4 ($SD = 5.0$).

Measures

ASSISTANT AND LEAD TEACHER CHARACTERISTICS

The research team obtained background and sociodemographic data, such as years of experience working as an assistant or lead teacher, language proficiencies, and racial/ethnic identification using questionnaires distributed to all participating assistant and lead teachers. The selected characteristics were ones that prior research indicated might contribute to quality of teaching, such as years of experience, multilingual proficiency, and role (assistant teacher or lead teacher). Assistant and lead teachers responded to the same questionnaire, which was available in both English and Spanish. Assistant and lead teachers were also asked to indicate *if* and *how* they had been professionally trained to work with DLL children. All participating teachers responded to the survey, though some participants skipped some questions, as noted by the sample sizes indicated in each chart in the findings section. The English version of the teacher questionnaire is provided in appendix B.

CLASSROOM QUALITY

The quality of teacher-child classroom interactions was measured using the Classroom Assessment Scoring System (CLASS) (Pianta, LaParo, and Hamre 2008). The CLASS is widely used throughout Head Start and other early childhood care and education programs as a measure of quality. Specifically, the CLASS examines interactions between children and assistant and lead teachers to provide an indicator of the extent to which the classroom context provides three types of support for children—all of which have been demonstrated as linked to children’s social and academic outcomes (Downer et al. 2012). These domains are Emotional Support, Classroom Organization, and Instructional Support. A prior research study conducted in 721 state-funded early childhood classrooms confirmed that the CLASS measure functions as well in linguistically diverse classrooms as it does in classrooms with English-only speaking children (Downer et al. 2012). The same study also demonstrated that the CLASS predicts DLL children’s social and academic outcomes. All of these CLASS features—and in particular, their validity

for use in classrooms with varying shares of DLL children—make it an appropriate measure to use in the current study.

In consultation with expert advisors, a novel methodology was developed to collect and analyze CLASS scores for both assistant and lead teachers separately. More information on this methodological innovation is in appendix C. Essentially, data used to assess classroom quality were collected through classroom observations (approximately three hours in each classroom). The research team used Swivl robots mounted with iPads to video record both the assistant and lead teachers separately. Each teacher wore a microphone that recorded her audio separately as well. To assess classroom quality, these videos and the accompanying audio were then scored using the CLASS quality measurement tool (Pianta, LaParo, and Hamre 2008). The assistant and lead teacher videos for each classroom were scored separately on each measured domain—Emotional Support, Classroom Organization, and Instructional Support—even though the observations were conducted simultaneously. This is a departure from typical use of the CLASS measure, which is meant to describe the “experience of a typical or average student in the class” (Pianta, LaParo, and Hamre 2008, p. 10) without particular emphasis on the assistant versus lead teacher. The authors of the CLASS measure state, “Most often, the primary teacher will be the focus of the codes. The primary teacher is that individual who is ultimately responsible for everything that happens” (Pianta, LaParo, and Hamre 2008, p. 10). The current study focused on disentangling the separate contributions of assistant versus lead teachers to classroom quality, so scoring their interactions with children in the classroom separately was important. Other researchers examining assistant teachers’ contributions to classroom quality have used the CLASS in a similar way (Curby et al. 2012).

Analytic Approach

UNDERSTANDING CHARACTERISTICS

To study the background and sociodemographic characteristics of participants, frequencies and counts were calculated from the data collected through the assistant and lead teacher questionnaire. Descriptive statistics, such as averages and ranges of collected data, were also calculated.

ASSOCIATIONS BETWEEN QUALITY AND CHARACTERISTICS

First, and to understand the nature of CLASS scores by domain (e.g., Emotional Support, Classroom Organization, and Instructional Support), descriptive statistics were calculated. As assistant and lead teachers work together in a teaching team, advanced statistical techniques accounting for the shared classroom context are required to accurately estimate the effects of assistant versus lead teachers’

experience and characteristics on classroom quality. Consequently, specialized statistical models, designed to account for the nested nature of assistant–lead teacher teams grouped together in a single classroom, were fit to investigate how CLASS scores in Head Start classrooms serving DLL children were associated with assistant and lead teacher characteristics.

Findings

What Are the Characteristics of Assistant Teachers?

ASSISTANT TEACHERS HAVE LESS TEACHING EXPERIENCE THAN LEAD TEACHERS

Assistant teachers had 7 years of experience in Head Start, on average (min = 0; max = 33; $SD = 8.6$), about half of lead teachers' years of experience. Participating lead teachers had on average 13 years of experience in Head Start (min = .5; max = 32; $SD = 8.9$). Notably, the range of years teaching in Head Start was similar between assistant and lead teachers.

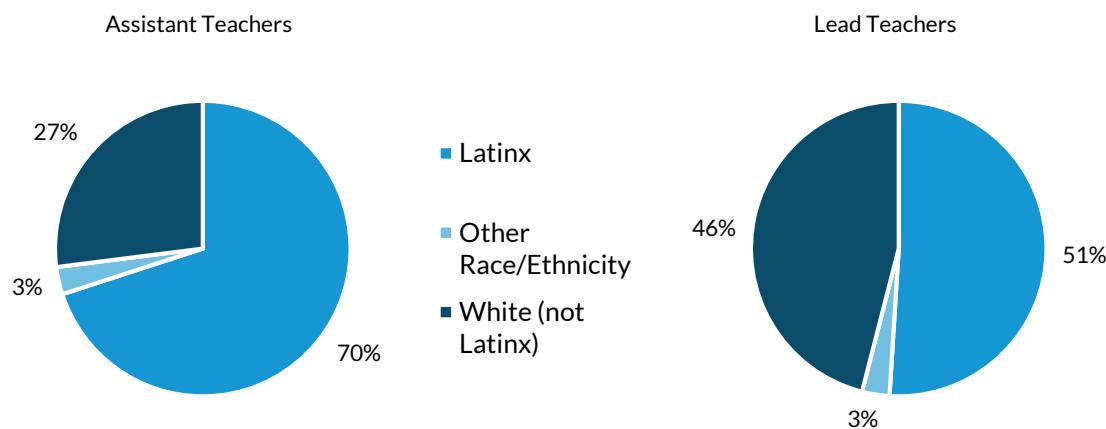
ASSISTANT TEACHERS ARE MORE RACIALLY AND ETHNICALLY DIVERSE THAN LEAD TEACHERS

Figure 1 indicates that almost three-quarters (73 percent) of assistant teachers who responded identified as either Latinx or as a member of another racial/ethnic group of color. In comparison, slightly less than half (49 percent) of lead teachers identified similarly. Note that questions about ethnic and racial identity were optional on the questionnaire, but nearly all assistant teachers (35 of 37) and lead teachers (37 of 38) answered these questions.

FIGURE 1

Ethnic/Racial Identification of Assistant and Lead Teachers

Displayed as percentages of total assistant teacher (n = 33) and lead teacher (n = 37) respondents



Source: Author's data collection.

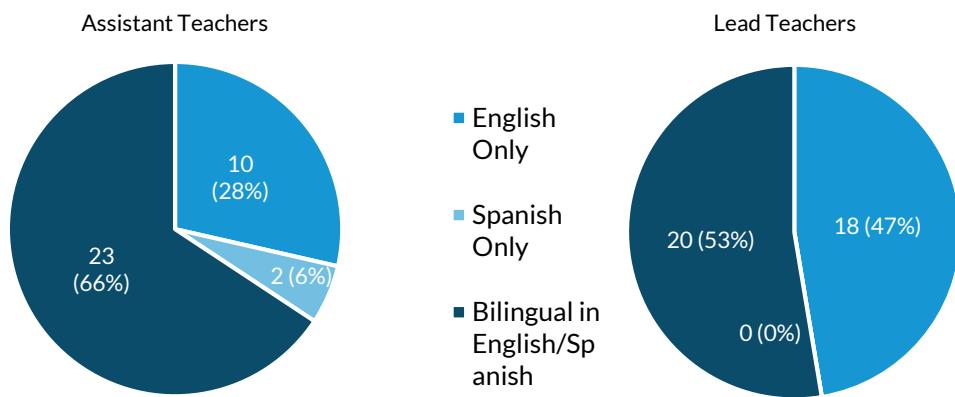
What Are the Language Proficiencies of Assistant Teachers?

Higher percentages of assistant teachers reported fluency in Spanish when compared with lead teachers. Figure 2 displays the number of participating teachers who reported fluency in receptive (i.e., how they understand the language) and expressive (i.e., how they use the language) English, Spanish, and both. For both groups, the majority reported they were conversationally fluent in English and Spanish. However, 66 percent of assistant teachers reported they were fluently bilingual in English and Spanish, compared with 53 percent of lead teachers. Additionally, two assistant teachers reported they were fluent in Spanish but did not consider themselves fluent in English, which brings the share of assistant teachers who spoke and understood Spanish fluently to 71 percent.

Assistant teachers reported speaking six additional languages other than English and Spanish, including Portuguese, Hindi, Gujarati, Italian, French, and American Sign Language. Most of these languages were reported as fluent or native languages for the assistant teachers. In contrast to the six additional languages of the assistant teachers, lead teachers only reported speaking two additional languages other than English and Spanish, and with limited proficiency: French and Portuguese.

FIGURE 2

Number of Teachers Conversationally Fluent in English, Spanish, and Both, as Self-Reported by Assistant and Lead Teachers
Assistant teachers ($n = 35$); lead teachers ($n = 38$)



Source: Author's data collection.

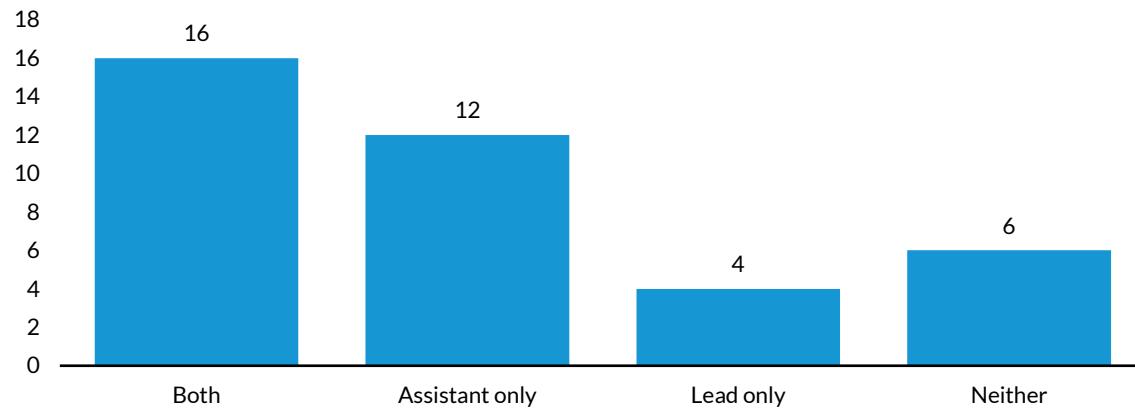
How Well Do Assistant Teachers' Language Proficiencies Match the Linguistic Diversity of Children Served in their Classrooms?

ASSISTANT AND LEAD TEACHERS CONVERSE WITH STUDENTS IN SPANISH

Figure 3 shows how Spanish-language proficiency was distributed among the assistant and lead teachers in the 38 observed Head Start classrooms. Considering the two teaching staff members together, the most common staffing configuration was for both the assistant and lead teacher to report having "most or all" conversations in Spanish. The second most prevalent configuration was for the assistant teacher only to report conversational Spanish language fluency. The least common configuration was a classroom in which only the lead teacher reported conversational fluency in Spanish. Notably, six classrooms had neither a lead nor an assistant teacher who reported fluency in Spanish.

FIGURE 3

Spanish-Language Proficiency among Assistant and Lead Teachers in the Same Head Start Classrooms (N = 38 classrooms)



Source: Author's data collection.

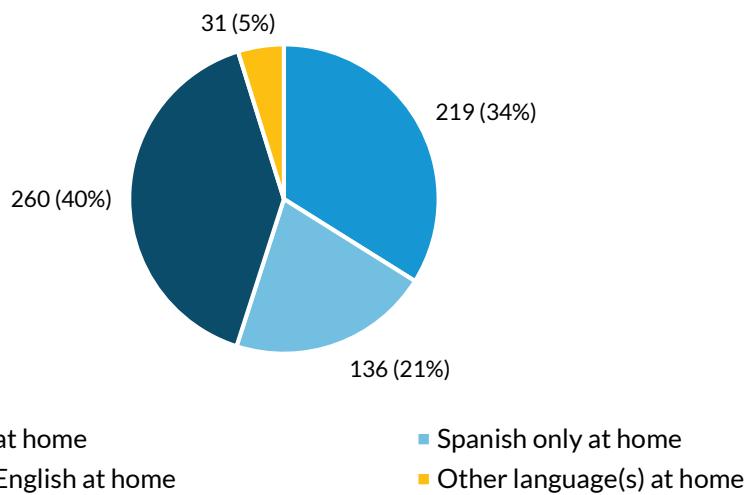
LANGUAGE MATCHING IN HEAD START CLASSROOMS

Figure 4 displays the home languages spoken by the 646 children served in the 38 participating Head Start classrooms. Out of 646 total students enrolled across the classrooms, 427 (66 percent) were identified through home language surveys as DLL students. The majority of these DLL students came from homes where Spanish was spoken ($n = 396$; 93 percent). Among this subset of DLLs, 136 families reported using only Spanish at home, while 260 reported using Spanish and English at home. More information on home languages other than English and Spanish is reported in appendix D.

FIGURE 4

Home Languages Spoken by Head Start Children (N = 646)

As reported to Head Start staff at the child's intake into the program

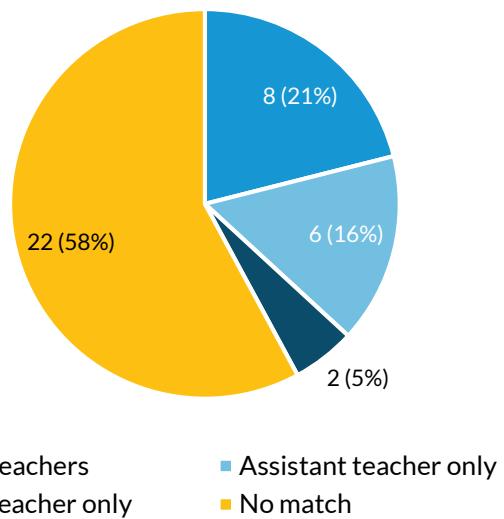


Source: Author's data collection.

Figure 5 shows the extent to which the languages spoken by the assistant and lead teachers in each classroom match the languages spoken by the children in the classroom. In 22 of the 38 classrooms (58 percent), at least one child spoke a non-English home language not spoken by either the assistant or lead teacher in their classroom. Though many children in those 22 classrooms might have had a language match with one or both teachers, at least one child did not have a non-English language match with the teaching staff—and in some classrooms, up to four children did not have that language match with the teachers. Notably, in eight classrooms (21 percent) both the assistant and lead teachers could provide non-English language support to all children in the classroom. In six classrooms (16 percent), only the assistant teacher had conversational fluency in all the children's home languages; in two classrooms (5 percent), the lead teacher had conversational fluency in all the children's home languages.

FIGURE 5

**Language Matches between One or Both Classroom Teachers with the Children's Home Languages
(N = 38 classrooms)**



Source: Author's data collection.

Note: No match indicates that at least one child in the classroom speaks a home language that has no match among the languages spoken by the teaching pair.

What Associations Exist between the Quality of Teacher-Child Classroom Interactions and Teacher Characteristics?

QUALITY RATINGS FOR ASSISTANT AND LEAD TEACHERS

Figure 6 displays mean scores for assistant and lead teachers for the three dimensions of classroom quality measured by the CLASS: Emotional Support, Classroom Organization, and Instructional Support. CLASS scoring provides a range from 1 (lowest) to 7 (highest) within each domain. Scores of 1–2 are considered low range, scores of 3–5 are considered middle range, and scores of 6–7 are considered high range (Pianta, LaParo, and Hamre 2008). In the Emotional Support domain, assistant and lead teachers had the same mean score: 5.9. The range of scores in this domain was slightly different for leads (range = 3.3–6.9; $SD = .75$) and assistants (range = 4.8–6.8; $SD = .55$), with assistant teachers having a smaller range and less variability in scores—as demonstrated by the smaller standard deviation.

Scores in the Classroom Organization domain were similar for assistant and lead teachers. The lead teacher mean score in this domain was 5.8 (range = 3.7–6.8; $SD = .76$), and the mean score for assistant

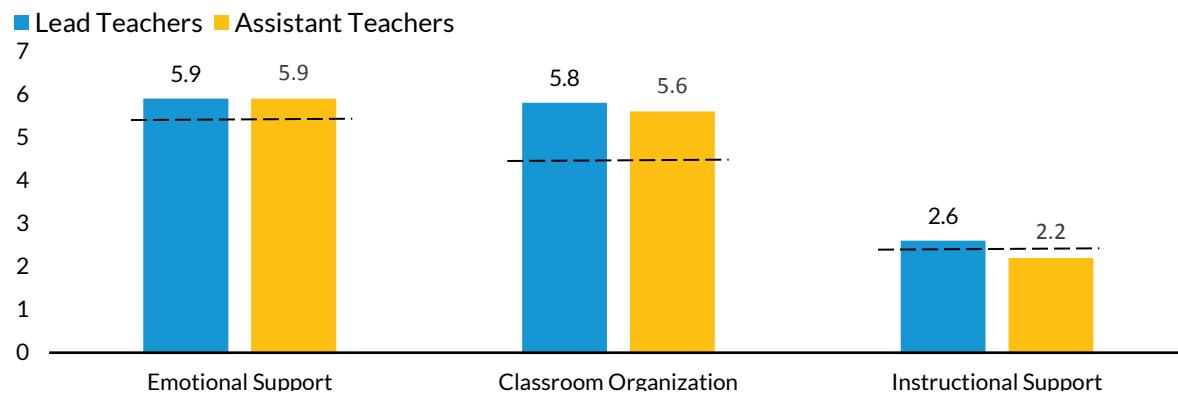
teachers was 5.6 (range = 4.1–6.5; $SD = .66$). In this domain as well, assistant teacher scores revealed a smaller range and standard deviation than lead teacher scores.

The Instructional Support domain scores constituted the largest difference in mean scores between assistant and lead teachers, with lead teachers having a higher mean score than assistants. Notably, the mean scores in this domain were the lowest of the three measured domains. The mean scores for the other two domains were between five and six, which the CLASS measure indicates is the middle–high range, while the mean scores for this domain were between two and three, which the CLASS indicates is the low–middle range of possible scores. Specifically, the lead teacher mean score in the Instructional Support domain was 2.6 (range = 1.2–3.7; $SD = .63$). The mean score for assistant teachers was 2.2 (range = 1.3–4.0; $SD = .64$). Interestingly, the highest score in this domain was achieved by an assistant teacher who scored a 4, which is solidly in the middle range of scores according to the CLASS creators.

The nationally representative Family and Child Experiences Survey Study (FACES) reports the average CLASS scores from 667 Head Start classrooms observed during spring 2015 (Moiduddin et al. 2017) and is a useful benchmark for comparing the scores obtained in the current study. The FACES researchers found that on average teachers scored 5.5 in the Emotional Support domain, 4.5 in Classroom Organization, and 2.4 in Instructional Support. Assistant and lead teachers in the current study scored slightly higher, though still within the same middle-range band of scores, in Emotional Support and Classroom Organization. In Instructional Support, lead teachers in the current study scored .2 higher, on average, than the national sample, and assistant teachers scored .2 lower, on average, than the national sample. The similarity in scores between the assistant and lead teachers in the current study and those from the larger, more comprehensive FACES study suggests that the site where the current research was conducted is not unusual when compared with other Head Start agencies.

FIGURE 6

CLASS Scores by Domain for Assistant and Lead Teachers ($n = 38$ lead teachers; $n = 38$ assistant teachers)



Source: Author's data collection.

Note: Dotted lines indicate the average score on the CLASS in each domain for the 667 Head Start classrooms participating in the large, nationally representative Head Start FACES study in 2015 (Moiduddin et al. 2017).

ASSOCIATIONS BETWEEN QUALITY RATINGS AND TEACHER CHARACTERISTICS

Given the nature of the data, with teaching pairs nested within classrooms, a multilevel analysis of the data was conducted. Table 1 presents a full taxonomy of the models used to test associations between CLASS domain scores and teacher characteristics.

Findings suggest that the domain of Instructional Support is the only one with a statistically significant difference between assistant and lead teachers. Lead teachers score higher on average in this domain than assistant teachers ($p = .01$) when controlling for relevant teacher characteristics, such as years of Head Start teaching experience and Spanish-speaking skills.

TABLE 1

Multilevel Mixed-Effects Linear Models Predicting CLASS Scores

Fixed effects	Emotional Support		Classroom Organization		Instructional Support	
	Coefficient (SE)	<i>p</i>	Coefficient (SE)	<i>p</i>	Coefficient (SE)	<i>p</i>
Intercept	5.78 (.16)	.000	5.53 (.17)	.000	2.04 (.15)	.000
Lead teacher (dichotomous)	.05 (.15)	.729	.05 (.15)	.731	.33 (.13)	.012
Spanish language competency (dichotomous)	.15 (.16)	.325	.04 (.17)	.791	.11 (.14)	.464
Years of teaching experience in Head Start	-.00 (.01)	.798	.01 (01)	.257	.01 (.01)	.106
Random effects	Estimate	-2LL	Estimate	-2LL	Estimate	-2LL
Level 2 variance	.08	74.26	.15	78.04	.15	68.2
Level 1 variance	.34		.33		.23	

Note: -2LL = -2 log likelihood. Total sample of observed teachers: $N = 76$. Teachers were clustered within classrooms ($N = 38$).

Key Findings

This study examined how assistant teachers contribute to classroom quality for DLL children served by Head Start. Sociodemographic background data collected through a teacher questionnaire and classroom quality data collected and coded using the CLASS measure yielded several findings that contribute to the small, but growing, body of research on assistant teachers. The findings are grouped into three areas of interest: multilingualism and diversity, limits of language competencies, and classroom quality.

Multilingualism and Diversity

Assistant teachers have higher rates of multilingualism and racial/ethnic diversity, though a high rate exists for both assistant and lead teachers.

The current study found higher rates of multilingualism among Head Start assistant teachers than lead teachers. Still many lead teachers in the participating classrooms also reported being conversationally multilingual. Similarly, in this study assistant teachers reported identifying as Latinx at higher rates than lead teachers. In this way, Head Start's programmatic goals of using children's home languages when possible (HHS 2008) and employing culturally diverse staff (Mancilla-Martinez and Lesaux 2014) were being met.

In general, ECE programs like Head Start have been more successful at employing culturally and linguistically diverse teachers than the K-12 system (Whitebook 2008; Whitebook, McLean, and Austin 2016). Unfortunately, even within ECE programs, teachers who identify with a racial/ethnic group of color are concentrated in the lower-paying positions, such as assistant teacher positions, as opposed to lead teacher positions (Sugarman and Park 2017). A similar trend was apparent in the current study.

Limits of Language Competencies

Most classrooms served one to four DLL children whose home languages were not spoken by either teacher.

Despite the high rates of multilingualism among assistant and lead teachers, most classrooms served one to four DLL children whose home languages were not spoken by either teacher. Although the most common reported home language among children in this Head Start agency was Spanish, 17 other languages were reported as spoken in children's homes. Because of the DLL children's linguistic

diversity, many classrooms served children who spoke low-incidence home languages that neither teacher spoke. Notably, this study found the number of different languages spoken by assistant teachers was greater than that of lead teachers. The findings suggest that assistant teachers may speak these less common home languages more frequently than lead teachers. Further studies of the important role assistant teachers may play in incorporating lower-incidence or more newly arrived languages in Head Start communities are needed. Expanding the current study to include Head Start agencies that reflect a broad range of urban and rural communities could help answer this question.

Head Start teams were most commonly bilingual Spanish/English-speaking assistant and lead teachers paired together. This finding contrasts with prior research findings (Figueras-Daniel 2016) that the most common staffing pattern in state-funded pre-K classrooms was an English-speaking lead teacher and a Spanish-speaking assistant teacher. In the current study, bilingual Spanish/English-assistant teachers paired with English-only speaking lead teachers was the second most prevalent pattern. Head Start has a long-standing model of recruiting Head Start parents into teaching positions, which highlights the unique program policies underlying this ECE model; this particular program policy could contribute to the differences observed between state-funded pre-K and Head Start.

Importantly, 6 of the 38 participating classrooms had neither a bilingual lead nor a bilingual assistant teacher, despite all classrooms serving at least three DLL children. More studies are needed to better understand the associations between staffing patterns and support for the learning and development of DLL children. Collecting child-level data to understand their learning outcomes related to assistant and lead teacher placement patterns in classrooms could help answer these questions.

Some Head Start agencies may have to choose between teaming bilingual assistant and lead teachers together or staffing at least one bilingual teacher in every classroom with DLLs. More studies of multilingual teachers' role in improving classroom quality for DLL children would help support this decisionmaking.

Classroom Quality

Assistant and lead teachers score nearly the same in Emotional Support and Classroom Organization. Lead teachers score higher, on average, than assistant teachers in Instructional Support.

In addition to uncovering the ways assistant teachers contribute to Head Start with their linguistic and cultural competencies, the current study measures their contribution to classroom quality. Overall, assistant teachers were found to contribute similarly to classroom quality as lead teachers. Though

quantitative differences exist in their average scores for Instructional Support in the CLASS measure, no differences exist for teaching roles in either Emotional Support or Classroom Organization. These findings align with those of Curby and colleagues (2012)—the only other researchers who have used the CLASS to examine assistant and lead teacher contributions to classroom quality separately. As in the current study, these researchers found that among 14 pairs of assistant and lead teachers, the assistant teachers scored lower than the lead teachers in Instructional Support but scored similarly to lead teachers in the other two domains. This report's findings extend theirs by including a larger sample and purposefully evaluating Head Start classrooms enrolling DLL children. Therefore, the current findings support previous studies and affirm that assistant teachers make important contributions to quality teacher-child interactions in Head Start.

The finding that lead teachers score higher, on average, than assistant teachers in the Instructional Support domain of the CLASS measure suggests that ECE pedagogy could be a critical professional development need among assistant teachers. Notably, across multiple, large-scale observational studies in ECE programs, teachers consistently score the lowest in Instructional Support (Moiduddin et al. 2017). Scholars have suggested these results could stem from a lack of professional training and development available to teaching faculty in both preservice and inservice professional education programs. Future research could assess the extent to which assistant teachers benefit from increased professional education and development in Instructional Support and ECE pedagogy.

Implications and Future Directions

CLARIFYING EXPECTATIONS FOR THE ASSISTANT TEACHER'S ROLE

As other researchers have noted, little guidance exists from federal policy regarding assistant teachers' professional role (Johnson 2015; Saddler 2015). Are they apprentice teachers? Or are they, as Michael Gove (a former Secretary of State for Education under UK Prime Minister David Cameron) said in 2010, "a mums brigade" (Bartlet 2017)? What should be the primary focus of assistant teachers' work? Should it be to support the inclusion of children with special needs? Should it be to deliver curriculum? Or should it be to pass out snacks, sweep up after art projects, and put away the blocks in the block corner? Without a clearly defined role, assistant and lead teacher teams are left to figure out how to divide the work in the classroom. Some of the current ambiguity around role definition could also influence the differential contributions to quality in the domain of Instructional Support that this study noted.

The current study's findings suggest that assistant teachers are capably participating in teacher-child interactions that support social and emotional development and classroom organization at the

same quality level as lead teachers. Better understanding of how assistant and lead teachers share the instructional and noninstructional workload in the classroom will help the field formally define these roles. This topic is under investigation in the larger project of which this study is a part. Agreed upon sets of skills and practices that constitute the professional role of assistant teachers in Head Start will enable more productive conversations about the education, training, and compensation that should accompany this role.

ACKNOWLEDGING LINGUISTIC AND CULTURAL KNOWLEDGE AS COMPETENCIES

Similarly, the current study provides further insight into the linguistic and cultural diversity among teaching staff present in Head Start classrooms serving DLL children. The classrooms that participated in this study had a strong representation of Spanish-speaking assistant and lead teachers. Notably, this ability to communicate about most topics in Spanish did not predict quality across any of the three CLASS domains; however, current research and Head Start program policy both highlight the need for these linguistic competencies to be present among teaching staff. Future research using observed quality measures designed to capture how the learning and development of DLL children, specifically, are supported may offer additional insight into multilingual teachers' contributions.

Prior research in K–12 settings has noted the important social and emotional, as well as academic, benefits to children from having a teacher who shares their same racial/ethnic identity (Dee 2004; 2005; Egalite and Kisida 2018; Egalite, Kisida, and Winters 2015). Building upon prior work examining the function of Spanish language use in early education classrooms (Jacoby and Lesaux 2014; Jacoby and Lesaux 2017; Mancilla-Martinez and Jacoby 2018), this study contributes to policy- and practice-based conversations that emphasize the importance of recruiting, training, and retaining teachers with multilingual competencies. Acknowledging the many ways multilingualism among teaching staff supports Head Start is helpful for moving policymakers and education administrators toward recognizing these staff attributes as competencies to value and compensate.

This study also highlights that although teaching staff with Spanish/English-speaking skills might be employed at high rates, the linguistic backgrounds of the children enrolled in programs like Head Start include many home languages—only English and Spanish. Thus, program policies and recruitment, hiring, and retention practices should continue to elevate the importance of multilingual competencies among teaching staff and seek ways to continue diversifying the range of multilingual and multiracial/ethnic competencies that the teaching staff possess.

PRIORITIZING PROFESSIONAL DEVELOPMENT FOR ASSISTANT TEACHERS

As noted above, several prior studies have commented on the lack of a formalized definition for assistant teachers' professional role. Understanding the ways assistant teachers contribute to daily classroom quality can help pinpoint the most beneficial professional development for assistant teachers. Little discussion targets professional development to support assistant and lead teachers differently, yet this might be the best investment of money and time at an organizational level.

As the larger study continues and the research team examines more deeply the ways assistant and lead teachers spend their time during the Head Start school day, findings related to the amount of time engaged in instruction will emerge. If the findings suggest that assistant teachers spend a larger share of their day engaged in instructional activities with children, then the current finding that they score lower than lead teachers in this domain may become a critical call to action.

Prior research conducted in Head Start classrooms serving DLL children suggests that lead teachers spend more time, proportionally, engaged in whole group lessons (Jacoby and Lesaux 2017). Assistant teachers may spend more time engaged in small group or one-on-one instruction with children. If so, then it is crucial to consider the professional development strategies that can encourage professional growth among assistant teachers specifically. Some of these strategies might include targeted coaching designed for the role assistant teachers are asked to fill. Another is the creation of professional learning communities for assistant teachers, which would allow them the opportunity to meet in a professional context and discuss topics that are important to them. And finally, these professional development strategies could also include financial support for continuing education that would increase learning and constitute progress toward more advanced professional credentials.

UNTANGLING THE CONTRIBUTIONS OF ASSISTANT AND LEAD TEACHERS

Although teaching is collaborative in many Head Start classrooms, little prior research exists on the separate contributions of assistant and lead teachers. This study is one of few to disentangle the characteristics of assistant and lead teachers and separately code and measure their contributions to classroom quality. Head Start policy does not treat assistant and lead teachers the same; thus, to be useful for the practical context in which assistant and lead teachers work, research should also separate the contributions of these ECE workforce members. The novel approach to observing and coding assistant teacher contributions to classroom quality used in this study could be carried into future studies.

To close, this study sheds light on the everyday contributions assistant teachers make with the multilingual and multicultural competencies they bring to their work, and it highlights areas in which

assistant teachers contribute to classroom quality in Head Start. The current study's findings can help policymakers and education administrators understand how the recruitment, professional training and development, and retention of assistant teachers could help leverage quality improvement in early childhood classrooms overall and in particular for the growing population of DLL children.

Appendix A. Additional Information on the Research Site

The participating Head Start agency is located in a Northeastern US urban area that encompasses four cities—one larger city and three smaller ones. A total of 15 centers are in the Head Start agency; all are in high-need communities in the four contiguous cities. The larger city has the highest percentage of residents living below the poverty level among all major cities⁶ in that state, and Latinx residents constitute the largest racial/ethnic group of people living below the poverty level in that city. Across the 15 centers of this Head Start organization, which serves infants, toddlers, and preschool-age children (birth through age 6) in a combination of Early Head Start and Head Start programs, they report 45 percent of the children come from homes where the primary language is not English. The most common spoken home language is Spanish, with more than 41 percent of the families reporting it is the primary home language. Most Spanish-speaking families in these communities self-identify as Puerto Rican, Dominican, and/or Central American.

Appendix B. Teacher Questionnaire in English

What is your job (circle one)?

- A. Teacher Director**
- B. Lead Teacher**
- C. Teacher**
- D. Other (please specify)** _____

1. Are you a substitute/long-term substitute? Yes No
2. In total, how many years have you been working in **early care and education** (children birth through age 8) including teaching and caregiving in center-based and home-based programs?

Number of years: _____

3. How many of those years have you been teaching at Head Start (as either Teacher Director, Lead Teacher, or Teacher)?

Number of years: _____

4. What is the **last or highest grade of school** you have **completed?** (Mark one.)

- Less than secondary (high school)
- Some secondary school (grades 7–12)
- Completed secondary school (through grade 12)
- GED certificate
- Vocational/trade school
- Some community college
- Completed two years of community college
- Some college or university, not vocational school or trade school
- Completed four-year college or university
- Some graduate-level education after college
- Completed graduate-level education after college

5. Have you taken courses on teaching bilingual/DLL children?

Yes No If yes, approximately how many? _____

6. Have you received any other type of professional training on working with bilingual/DLL children?

Yes No If yes, please describe _____

7. Please check the box that describes your proficiency in English.

- I can have a conversation in **some** situations in English. (limited proficiency)
- I can have a conversation about **most** things in English. (proficient)
- I can have a conversation about **everything** in all situations. I can express everything in English. (fluent or native speaker)
- Other _____

8. Do you speak and understand Spanish? Yes No

9. Please check the box that describes your proficiency in Spanish.

- I can have few to no conversations in Spanish.
- I can have a conversation in **some** situations in Spanish. (limited proficiency)
- I can have a conversation about **most** things in Spanish. (proficient)
- I can have a conversation about **everything** in all situations. I can express everything in Spanish. (fluent or native speaker)
- Other _____

10. What other languages do you speak? Please list any additional languages and circle your proficiency in each.

Language_____

- I can have a conversation in **some** situations in this language. (limited proficiency)
- I can have a conversation about **most** things in this language. (proficient)
- I can have a conversation about **everything** in all situations. I can express everything in this language. (fluent or native speaker)
- Other _____

Language_____

- I can have a conversation in **some** situations in this language. (limited proficiency)
- I can have a conversation about **most** things in this language. (proficient)
- I can have a conversation about **everything** in all situations. I can express everything in this language. (fluent or native speaker)
- Other _____

11. What is your gender? _____

12. What is your race/ethnicity(s)? _____

Appendix C. Additional Information on Novel Use of the CLASS Tool

Novel Classroom Observation Protocol

Each participating classroom was observed and video recorded for approximately three hours. Unlike the traditional CLASS protocol that prescribes following only one teacher per cycle, the author employed a novel protocol that allowed them to score assistant and lead teachers for all classroom interactions over the same, three-hour day. Essentially, each assistant and each lead was observed and scored separately for all adult-child interaction cycles in which they took part. Using the CLASS measure accordingly yielded separate scores for assistant and lead teachers in each measured domain: Emotional Support, Classroom Organization, and Instructional Support.

A similar CLASS protocol that scored assistant and lead teachers separately was successfully implemented by Curby and colleagues (2012) in one of the only other studies to examine the unique contributions of assistant teachers to classroom quality in Head Start. This researcher, Tim Curby, as well as members of the Teachstone team that publishes the CLASS, including Sarah Hadden, provided expert consultation in developing the novel approach to using CLASS in Head Start that I employed.

Another novel component of the protocol was using digitally recorded video and audio interactions. Using Swivl robots mounted with iPads and separate teacher microphones enabled the author to record separate video and audio feeds for assistant and lead teachers who worked in the same classroom at the same time. Because video observations were used instead of live scoring, it was easy to identify observation cycles within the school day. For example, when the assistant and lead teachers were engaged in the same activity, the author could review the video separately for each and determine whether the interactions with the children were sustained by each teacher for long enough to constitute an observation cycle. In alignment with the CLASS manual (Pianta, LaParo, and Hamre 2008), cycles had to persist for at least 10 minutes to be coded. In this way, the author did not have to choose between coding the assistant or lead in a given observation cycle but could code both teachers for their separate contributions to adult-child interactions within the same classroom.

Reliability

Reliability of the CLASS coding was ensured through multiple protocols. First, as described above, all videos were coded and scored by CLASS-certified and reliable observers—the senior research assistant for the study and the author of this report. The senior research assistant was the primary coder for all CLASS cycles. At the midway point in the coding process, both researchers neared the end of their annual CLASS certification and successfully renewed their certifications, indicating that they both retained reliability with the measure.⁷ Additionally, to further ensure reliability, they double-coded a subset of the video-recorded CLASS cycles and then computed their agreement using the metric percent-within-one (PWO), the reliability standard for CLASS certification (Pianta et al. 2008) and the metric used by other researchers (Curby et al. 2012; Joseph et al. 2011). In alignment with previous studies, the current study aimed for an average of .80 PWO across all codes within the randomly selected cycles and resolved any coding discrepancies through conversation. The researchers met the designated reliability threshold for all CLASS codes across the seven randomly selected videos (PWO = .81).

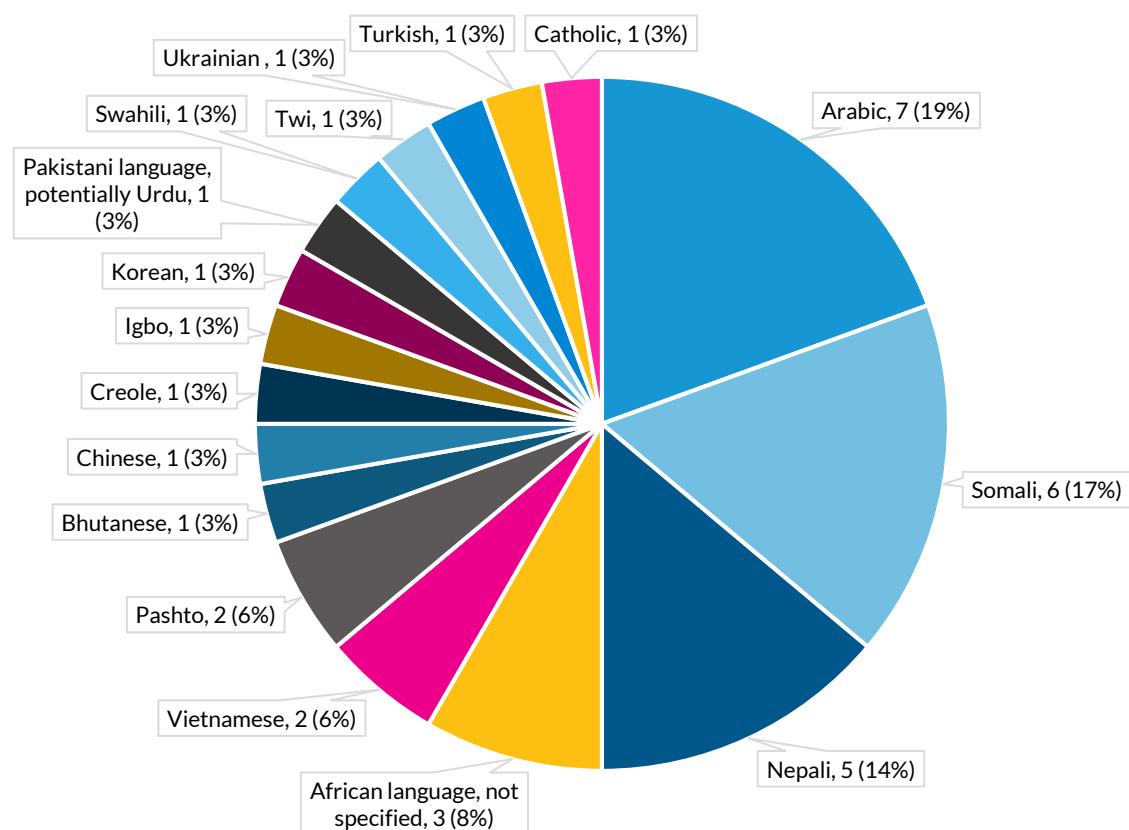
A white paper published by the CLASS creators outlines several recommendations for valid use of the CLASS in classrooms with DLL children (Vitiello 2013). “Use certified, reliable CLASS observers” and “find a language match” (p. 10) are the first two recommendations. These recommendations were met by recruiting and training a multilingual research assistant for this work. The author/lead researcher is also a competent Spanish speaker. Both the research assistant and the author are current, certified, and reliable CLASS observers. The two recorded, reviewed, and coded all classroom observations for the current study.

Appendix D. Home Languages Spoken by Children in Participating Classrooms

In total, 17 non-English, non-Spanish additional languages were reported as spoken in the homes of the DLL children in the participating Head Start classrooms. The three most frequently reported were Arabic ($n = 7$), Somali ($n = 6$), and Nepali ($n = 5$). Two additional languages had two speakers each, and 11 other languages had one speaker each.

TABLE A.1
Other Home Languages Spoken by Head Start Children (N = 17 home languages spoken by 31 children)

Number of children who speak each language at home



Note: Language names are recorded as reported by Head Start staff, as such some languages are denoted by the regions where spoken.

Notes

- ¹ "Using Data to Support the Full and Effective Participation of Children Who Are Dual Language Learners (DLL) and Their Families," Head Start Early Childhood Learning and Knowledge Center, accessed November 2, 2020, <https://eclkc.ohs.acf.hhs.gov/culture-language/article/using-data-support-full-effective-participation-children-who-are-dual-language-learners-dlls-their>.
- ² "Head Start Program Performance Standards," Head Start Early Childhood Learning and Knowledge Center (ECLKC), accessed November 2, 2020, <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii>.
- ³ "Head Start Program Performance Standards," ECLKC.
- ⁴ Please note that the policy context is not part of the analysis and findings presented in this report but will be part of subsequent analyses of the larger project on which this report is based.
- ⁵ Because one of the participating assistant teachers worked in two preschool classes (i.e., a morning and an afternoon class), the total sample of participating teachers included 38 lead teachers and 37 assistant teachers.
- ⁶ For these purposes, a major city is one that has more than 100,000 residents.
- ⁷ Our CLASS certification never lapsed, so no videos were coded by an uncertified CLASS observer.

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